

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 10 FEB 2006

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Applicant's or agent's file reference AJL/IR/P5225	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/GB2004/004859	International filing date (day/month/year) 18.11.2004	Priority date (day/month/year) 19.11.2003
International Patent Classification (IPC) or national classification and IPC F03D11/04, F03D7/02, F03D9/00, F03D1/00		
Applicant WIND SAVE LIMITED et al.		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ sent to the applicant and to the International Bureau a total of 3 sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☒ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand  17.06.2005	Date of completion of this report  13.02.2006
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  de Rooij, M  Telephone No. +31 70 340-2306  

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/004859

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements**\* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-11 as originally filed

**Claims, Numbers**

1-18 filed with telefax on 17.06.2005

**Drawings, Figures**

1-5 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/004859

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	2,3,5-17
	No: Claims	1,4,18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

- D1: PATENT ABSTRACTS OF JAPAN vol. 2003, no. 07, 3 July 2003 -& JP 2003 083231 A (DMW JAPAN), 19 March 2003
- D2: US 4 159 427 A (WIEDEMANN, HANS O) 26 June 1979
- D3: US 4 439 105 A (HOHENEMSER ET AL) 27 March 1984
- D4: US 2003/202367 A1 (SCHREIBER DEJAN) 30 October 2003
- D5: "connecting your system to the electricity grid" CONSUMER GUIDE TO RENEWABLE ENERGY FOR YOUR HOME OR BUSINESS, 2 March 2003

2. The amendments filed with telefax dated 17-06-2005 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendments concerned are the following:

2.1 Claims 2-10 introduce new-subject-matter, because in the original application (p.7, §3 and claims 2-12, 27), these features are merely disclosed in combination with the additional feature of claim 18 (multiple rows of wind generators). These new combinations of features go beyond the content of the application as originally filed.

2.2 If claim 1 had included the additional features of claim 18, no extension of subject-matter would have occurred. **This report has therefore been based on a claim 1, including the additional features of claim 18, and claims 2-18 as dependent on such an amended claim 1.**

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

3.1 The document D1 discloses (the references in parentheses applying to this document):

A system for converting electrical power produced by wind generators into AC power for use in providing electrical power for a building to supplement or replace electrical power supply from the national grid (§[0006]), comprising a plurality of wind generators in at least two rows, wherein generators of any one row are at a different height to those of adjacent rows (figure), the system furthermore comprising a control unit for converting the generated AC power into AC in the same phase and at the same voltage as the AC supply from the national grid (implicit in D1, §[0006]).

4. Dependent claims 2-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, since all the additional features are known from or rendered obvious by D1-D5, or fall within the scope of customary practice of a person skilled in the art see e.g.:

- for claim 2: D2, col. 7, l. 65 - col. 8, l. 2
- for claim 4: D1, figure
- for claims 5-9: D3, figs. 1,2, col. 1, l. 67 - col. 2, l. 55; col.5, l. 22 53
- for claims 11-16: D4, § [0001],[0011]-[0016]
- for claim 17: D5
- for claim 18: D1

5. The claimed invention is industrially applicable in the field of wind turbines (Article 33(4) PCT).

CLAIMS

1. A system for converting electrical power produced by wind generators into A.C. power for use in providing electrical power for a building to supplement or replace electrical power supply from the national grid, the system comprising one or more wind generators for producing A.C. from wind power and a control unit for converting the generated A.C. into A.C. in the same phase and at the same voltage as the A.C. supply from the national grid.
2. A system as claimed in claim 1, wherein the or each wind generator is mounted on a height adjustable pole.
3. A system as claimed in claim 2, wherein the height of the pole is telescopically adjustable.
4. A system as claimed in claim 1, 2 or 3, wherein the or each wind generator is mounted on a platform that is itself mounted on a roof or other suitable structure.
5. A system as claimed in any one of claims 1 to 4, wherein the wind generators are rotatably mounted.
6. A system as claimed in any one of claims 1 to 5, wherein a wind generator is rotatably mounted on a support pole off-centre thereof.
7. A system as claimed in claim 6, wherein the wind generator has a tail fin offset towards the opposite side of the support pole.
8. A system as claimed in claim 7, wherein the tail fin is spring-loaded.

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9. A system as claimed in claim 7 or 8, wherein the tail fin has a damper for controlling rate of reaction.
10. A system as claimed in any one of claims 1 to 9, wherein the wind generator has a three-bladed rotor.
11. A system as claimed in any one of claims 1 to 10, wherein A.C. current produced by the wind generators is taken through a full wave internally or externally mounted rectifier to convert it to D.C.
12. A system as claimed in claim 11, wherein from the rectifier, the D.C. is converted to square wave A.C.
13. A system as claimed in claim 12, wherein the D.C. is converted to A.C. by means of a chopper circuit.
14. A system as claimed in claim 13 having means for converting the converted A.C. to sine wave A.C.
15. A system as claimed in claim 14, wherein the means for converting the A.C. to sine wave A.C. is a constant voltage transformer.
16. A system as claimed in any one of claims 1 to 15 including means for producing the sine wave A.C., so as to be in phase with and at the same voltage as the A.C. supply from the normal utility supplier to the building.
17. A system as claimed in any one of claims 1 to 16, provided in a box or ~~case to which~~ the wind generators can be connected and which itself can be connected into the electrical circuitry of the building to feed the load thereon.
18. A system as claimed in any one of claims 1 to 17 comprising a plurality of wind generators in at least two rows, wherein generators of any one row are at a

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different height to those of adjacent rows and/or a wind generator of one row is offset relative to any wind generators of an adjacent row.



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